

CLAIMS:

1. A wall for a package, which wall comprises, or includes a layer comprising, a composition comprising a polymer and having oxygen-scavenging properties, characterised in that the composition scavenges oxygen through the metal-catalysed oxidation of an oxidisable organic component thereof.
2. A wall according to claim 1, of which the permeance, for oxygen, is not more than $10.0 \text{ cm}^3/(\text{m}^2 \text{ atm day})$.
3. A wall according to claim 1, of which the permeance, for oxygen, is not more than $2.0 \text{ cm}^3/(\text{m}^2 \text{ atm day})$.
4. A wall according to claim 1, of which the permeance, for oxygen, is not more than $0.5 \text{ cm}^3/(\text{m}^2 \text{ atm day})$.
5. A wall according to any one of claims 1 to 4, of which the permeance, for oxygen, is not more than three-quarters of that which it would have in the absence of oxygen-scavenging properties.
6. A wall according to any one of claims 1 to 4, of which the permeance, for oxygen, is not more than $1/25$ of that which it would have in the absence of oxygen-scavenging properties.
7. A wall according to any one of claims 2 to 6, of which the said permeance is maintainable at or below the specified limit at 23°C and 50% relative humidity for at least 20 days.
8. A wall according to any one of claims 2 to 6, of which the said permeance is maintainable below the specified limit at 23°C and 50% relative humidity for at least 100 days.
9. A wall according to any preceding claim, which would have in the absence of oxygen-scavenging properties a permeance of not more than $50 \text{ cm}^3/(\text{m}^2 \text{ atm day})$.

10. A wall according to any one of claims 1 to 9, wherein the oxidisable organic component is an oxidisable polymer.
11. A wall according to any of claims 1 to 9, wherein the oxidisable organic component is a polyamide.
12. A wall according to any of claims 1 to 9, wherein the oxidisable organic component is a polymer containing units of the formula
-NH-CH₂-arylene-CH₂-NH-CO-alkylene-CO-.
- 10 13. A wall according to any one of claims 1 to 12, wherein the metal catalyst is a cobalt compound.
14. A wall according to any one of claims 1 to 12, wherein the metal catalyst is a rhodium compound.
15. A wall according to any one of claims 1 to 12, wherein the metal catalyst is a copper compound.
16. A wall according to any of claims 1 to 15, wherein the composition contains the metal catalyst in a weight fraction, expressed as metal relative to the composition, in the range from 10 to 300 ppm.
- 20 17. A wall according to any of claims 1 to 15, wherein the composition contains the metal catalyst in a weight fraction, expressed as metal relative to the composition, in the range from 100 to 250 ppm.
18. A wall according to any one of claims 1 to 17, wherein the polymer is formally a condensation polymer of one or more phthalic acids with one or more compounds containing at least two alcoholic hydroxy groups per molecule.
- 25 19. A wall according to any one of claims 1 to 17, wherein the polymer is formally a condensation polymer of terephthalic acid with ethylene glycol.
- 30 20. A wall according to any one of claims 1 to 17, wherein the polymer is a polyolefin.

-41-

21. A wall according claim 20 wherein the polyolefin is polypropylene or polyethylene.
22. A wall according to any of claims 1 to 17, wherein the oxidisable organic component and the polymer are a single oxidisable polymer.
23. A wall according to any preceding claim, which comprises at least two layers, the first of which comprises the composition specified in claim 1 and the other or others of which comprise a composition comprising a polymer and reduce by a factor of two or more the permeance that the wall would have in the absence of oxygen-scavenging properties.
24. A wall according to any preceding claim, comprising at least two layers, the first of which comprises the composition specified in claim 1 and the other or others of which afford mechanical stability or separation of the composition from the environment or the package contents.
25. A composition for packaging use, which comprises a polymer, an oxidisable organic component, and a metal catalyst for the oxidation of the oxidisable organic component.
26. A composition according to claim 25, of which the permeability, for oxygen, is not more than $3.0 \text{ cm}^3 \text{ mm} / (\text{m}^2 \text{ atm day})$.
27. A composition according to claim 25, of which the permeability, for oxygen, is not more than $0.7 \text{ cm}^3 \text{ mm} / (\text{m}^2 \text{ atm day})$.
28. A composition according to claim 25, of which the permeability, for oxygen, is not more than $0.2 \text{ cm}^3 \text{ mm} / (\text{m}^2 \text{ atm day})$.

29. A composition according to any of claims 25 to 28, which has a permeability not more than three-quarters of that which it would have in the absence of oxygen-scavenging properties.

5 30. A composition according to any of claims 26 to 29, of which the said permeability is maintainable at or below the specified limit at 23°C and 50% relative humidity for at least 20 days.

31. A composition according to any of claims 25 to 30,
10 which would have a permeability in the absence of oxygen-scavenging properties of not more than $17 \text{ cm}^3 \text{ mm}/(\text{m}^2 \text{ atm day})$.

32. A composition according to any of claims 25 to 31, having any of the features specified in any one of claims
15 10 to 22, for the wall according to claim 1.

33. A method of making a wall according to any one of claims 1 to 24, wherein the composition specified in claim 1 is prepared by mixing the metal catalyst with the other component or components all together or in any order and
20 the wall, or the layer of the wall, is formed from the composition so obtained.

34. A method of making a composition according to any one of claims 25 to 32, which comprises mixing the metal catalyst with the other component or components all
25 together or in any order.

35. A wall for a package, which wall comprises, or includes a layer comprising, a composition comprising a polymer and having oxygen-scavenging properties, wherein the wall has a permeance of not more than $2.0 \text{ cm}^3/(\text{m}^2 \text{ atm day})$ and would have in the absence of oxygen-scavenging properties a permeance not exceeding $50 \text{ cm}^3/(\text{m}^2 \text{ atm day})$,
30 characterised in that the composition scavenges oxygen through the metal-catalysed oxidation of an oxidisable organic polymer therein.

-43-

36. A package comprising a wall according to any one of claims 1 to 24 and 35, or a wall made by the method according to claim 33.

37. A beverage bottle comprising a wall according to any
5 one of claims 1 to 24 and 35, or a wall made by the method according to claim 33.

38. A food container comprising a wall according to any one of claims 1 to 24 and 35, or a wall made by the method according to claim 33.